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BEFORE THE
Federal Communications Commission
WASHINGTON, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of	)	
	)	
CHASE TELECOMMUNICATIONS, INC.	)	CC Docket No. 94-102
	)	RM-8143
Petition for Waiver of Section 20.18(c)	)	

To: Chief, Wireless Telecommunications Bureau

CHASE TELECOMMUNICATIONS, INC.
PETITION FOR WAIVER OF SECTION 20.18(c)

Pursuant to the Wireless Telecommunications Bureau's *Order* of November 13, 1998 and Section 1.3 of the Commission's rules, Chase Telecommunications, Inc. ("ChaseTel"), on behalf of its licensee subsidiaries, hereby petitions the Bureau for waiver of Section 20.18(c) of the Commission's rules in regard to its digital system, effective January 1, 1999.[1] By this filing, ChaseTel demonstrates its "commitment to, and plans for, complying with Section 20.18(c)" of the rules, and that carrying TTY calls over ChaseTel's CDMA network is not readily achievable pursuant to Section 255. Pursuant to the *November 13 Order*, ChaseTel will supplement the instant Petition with additional responsive information that may become available, including information from vendors, every three months to indicate progress made toward implementation of TTY digital capability and to maintain the instant waiver.[2]

I. INTRODUCTION

ChaseTel's licensee subisidiaries are a broadband PCS "C Block" licensees in 11 BTA markets encompassing most of the State of Tennessee and small areas in surrounding states. Even in the midst of the Commission's difficulties surrounding the C Block auction, ChaseTel

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1 *See* 47 C.F.R. § 1.3; *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Order*, CC Docket No. 94-102, DA 98-2323, ¶¶ 13-14 (rel. November 13, 1998) ("*November 13 Order*").

2 *November 13 Order* ¶ 11.

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launched service in the Chattanooga BTA at the end of 3Q98, and has spent considerable sums in network deployment. ChaseTel operates a digital CDMA network over which — as the Commission has acknowledged — "users of TTY devices will not be able to operate such devices . . . at any time in the near future."[3] ChaseTel has deployed its network using software and equipment consistent with currently effective industry standards and Commission rules.

The record in this proceeding demonstrates long-standing industry concern for digital TTY incompatibility.[4] The scope of carriers' TTY capability obligations also are uncertain, in light of the Access Board's guidelines and Section 255 of the Communications Act.[5] ChaseTel is also uncertain whether the "consumer concerns" referenced by the Commission should be deemed technical standards — certainly they are not part of the rules.[6] Nevertheless, against this backdrop, ChaseTel believes that some solutions — primarily long-term data-based solutions — hold promise. Short-term solutions currently before the Commission, however, are not compati-

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3 *Id.* ¶ 7.

4 *See E911 Reconsideration Order*, 12 FCC Rcd. 22665, 22687-22694 (1997); *E911 First Report and Order*, 11 FCC Rcd. 18676, 18700-02 (1996); *E911 Notice of Proposed Rulemaking*, 9 FCC Rcd. 6170, 6180 (1994) (record was "not clear . . . what Commission rules or policies would be *necessary or appropriate* to ensure access to 911 services for TTY-like devices beyond *the general requirement* that services be compatible with such devices") (emphasis added).

5 This uncertainty is also inflected in the tentative conclusions reached in the Commission's pending rulemaking concerning Section 255 implementation. *See Architectural and Transportation Barriers Compliance Board, Telecommunications Act Accessibility Guidelines*, 63 Fed. Reg. 5606 (Feb. 3, 1998) ("*Access Board Guidelines*").

6 *November 30 Order* ¶¶ 7, 11; *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Order*, CC Docket No. 94-102, DA 98-1982, ¶ 8 (WTB rel. Sept. 30, 1998) ("*September 30 Order*"); CTIA/PCIA Joint Comments in CC Docket No. 94-102, filed October 30, 1998, at 2 ("CTIA/PCIA Joint Comments"); Letter from Thomas E. Wheeler, President/CEO, CTIA, to Chairman Kennard, dated Oct. 28, 1998, at 2.

ble with ChaseTel's CDMA network.[7] Thus, the industry's conclusion that "there does not appear to be a voice-based solution in the near future which will allow the Baudot signal of a TTY device to pass through the vocoder of a digital air interface and achieve a character error rate comparable to the character error rate achieved with analog air interface, i.e., less than 1%" is equally applicable to all CDMA carriers today, including ChaseTel. Accordingly, a waiver is clearly appropriate.

II. SECTION 20.18(C) WAIVER RESPONSE

A. ChaseTel Has Taken Steps to Provide Users of TTY Devices with Capability to Operate Such Devices in Conjunction with Digital Wireless Phones

ChaseTel is taking substantive steps toward providing users of TTY devices with the capability to operate such devices in conjunction with digital wireless phones. ChaseTel will continue to notify customers that TTY devices cannot be used over a digital network. Currently, however, no commercially viable short-term solution is available. Moreover, ChaseTel's ability to effect such a technical solution is necessarily extremely limited. Pursuant to the Commission's C Block eligibility rules, ChaseTel is a small business and, as such, must focus its limited resources on network deployment and service issues. In this regard and consistent with industry practice, efforts to develop and study possible digital TTY solutions have been undertaken by manufacturers, trade associations such as CTIA and PCIA, and other industry-based groups. ChaseTel has monitored these developments.

Also, ChaseTel is dependent on the availability of equipment and software from its vendor to comply with Section 20.18(c) and to obtain the information necessary to respond to

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[7] Testing conducted by CDMA vendor Lucent in May 1998 indicated a character error rate for its CDMA equipment approaching 9 percent. *See* TTY Forum Quarterly Status Report, filed July 10, 1998, CC Docket No. 94-102, App. A. Recent tests by Sprint PCS confirms that TTY use over digital technologies results in a CER ranging from 10-15 percent, and ChaseTel believes that Sprint's results would be consistent with the performance of ChaseTel's network.

November 13 Order.[8] Subject to these limitations, ChaseTel has attempted to make some preliminary determinations as to which of the various solutions currently before the Commission may be feasible for ChaseTel's network and, if feasible, the steps that will be necessary to implement such potential solutions.

CDMA technologies pose unique technical obstacles to developing a TTY solution. ChaseTel's engineering personnel are evaluating the feasibility of implementing the various data solutions currently under consideration at the TTY Forum. ChaseTel has formally inquired from its vendor as to the availability of potential solutions and the necessary steps for implementing any solution. ChaseTel also supports and will monitor the efforts of the CDG and TTY Forum. Nevertheless, short-term voice-based solutions are not currently feasible, and long-term solutions may require expensive, time-consuming and technically complex network changes. These solutions may not be readily achievable, as required by law. Again, the information herein is based on currently available information and material provided by ChaseTel's vendor and will be updated as new information becomes available.

1. Problems with CDMA Generally

As CTIA and PCIA have reported to the Commission, the primary cause for incompatibility between TTY devices and CDMA systems is the Frame Erasure Rate ("FER") of CDMA systems when using voice service.[9] The FER is established in order to maintain the minimum power requirement necessary to balance between capacity and voice quality for voice services. CDMA systems are precisely tuned to operate at an FER of 1 percent. Due to the slow nature of

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[8] The Commission has acknowledged carriers' reliance on vendors for compliant equipment and software and has granted waivers of the applicable rules where compliant equipment/software is unavailable. *See Roosevelt County Rural Tel. Cooperative, Inc. et al.*, 13 FCC Rcd. 22 (CCB 1997).

[9] CTIA/PCIA Joint Comments at 5.

the TTY Baudot signals (180 ms) compared to CDMA frames (20 ms), a 1 percent FER translates into approximately a 7-9 percent CER; in fact, tests indicate that this number may still understate the resulting CER in a CDMA system. (One TTY character spans 9 CDMA voice frames.) ChaseTel has confirmed internally that CDG's findings with respect to the feasibility of various digital TTY solutions would be applicable to its network.[10]

2. No Voice-Based Solutions Are Commercially Available or Readily Achievable

For the reasons discussed above, ChaseTel expects that voice-based solutions, whereby the Baudot signal passes through the vocoder, would result in an unacceptably high CER — because of the requirement in CDMA to maintain minimum power on both the forward and reverse radio links. ChaseTel notes that its vendor Qualcomm Inc. ("Qualcomm") concurs that these solutions result either in unacceptable CER or would require silicon design changes in the MSM that would take 1 1/2-2 years to deploy and would adversely affect existing products.

Direct Audio Connection. Even where a 2.5 mm jack is supported, the vocoders in the handset will not reliably pass the audio tones generated by a TTY device, resulting in an unacceptably high CER. ChaseTel thus agrees with the Forum that this is not a viable short-term solution and is not currently pursuing this proposed solution.

Acoustic Solution. ChaseTel agrees with the Forum that this is not a viable short-term solution. As with the direct audio connection, the vocoders in the handset will not reliably pass the audio tones generated by a TTY device, resulting in an unacceptably high CER. ChaseTel is therefore not currently pursuing this proposed solution.

RJ-11-Type Modular Connection/Jack and True RJ-11 Connection. Connecting a TTY device to a CDMA handset using a RJ-11 connection will transmit analog tones. Thus,

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[10] *See* Attachment A, Declaration of Sunir Kochhar.

when a RJ-11 connection is provided to connect an external TTY device to a CDMA handset, the vocoders in the handset will not reliably pass the audio tones generated by a TTY device, resulting in an unacceptably high CER. ChaseTel agrees with the Forum that this is not a viable short-term solution. ChaseTel is therefore not currently pursuing this as an option.

Proprietary Solutions. By definition, other carriers' proprietary solutions are not available to ChaseTel to evaluate and test. ChaseTel notes that any proprietary solution would need to be tested against its network/infrastructure and evaluated regarding cost/timing issues.

4. Long-Term Data-Based Solutions

ChaseTel has reviewed the data-based solutions currently before the Commission. As with any solution, ChaseTel can determine the feasibility of these solutions for its network as they become commercially available — again a date entirely dependent on its vendor. As these proposed solutions are not commercially available, they also are not readily achievable, as required under Section 255. Nevertheless, ChaseTel is working closely with its vendor, Qualcomm, to meet the TTY requirements and hopes to implement Qualcomm's data-based solution once it becomes commercially available.

Generally, ChaseTel understands that changes will be required in both infrastructure and handset equipment. Qualcomm's solution involves an IWF platform that conveys TTY-generated Baudot signals to the PSAP and performs other TTY call support functions. Qualcomm informs ChaseTel that simulations involving transmitting TTY signals as data via its "asynchronous data solution" have resulted in CER approximating those of analog cellular systems. According to Qualcomm, this solution is less susceptible to errors in a mobile environment and leverages existing standards-based connectivity in handsets to provide direct TTY access via a wireless data solution. The viability of this solution also depends on other factors outside of ChaseTel's control. The caller must use a data-capable TTY or other data-

capable input device. Also, in order for the landline party to receive Baudot, carriers must implement an IWF, which converts the data into a Baudot session and similarly transmits received Baudot-based data to the wireless device via the data session.

Therefore, data-enabled TTY-capable peripheral devices will need to be developed by TTY vendors. Qualcomm informs ChaseTel that it will assist and has contacted TTY vendors in this effort, and that one vendor is developing data retrofit kits to modify existing TTY devices. Qualcomm cautions that while it anticipates that its handsets will be usable without modification, *further cooperation in developing data-capable TTY devices may reveal unforeseen software requirements for the handset.* In this regard, ChaseTel notes that the TTY user community agreed on their requirements in September 1998 and thus it is unclear when TTY manufacturers may develop digital standards and solutions for their own products. In addition, while the use of TTY modems as part of asynchronous data services is already specified in IS-707, ChaseTel would need to upgrade its network via software modifications to support the IS707 Asynchronous Data service option. ChaseTel further understands software modifications and interfaces will be required. ChaseTel understands that a third party will need to produce this IWF platform. Also, this solution will require circuit switched data support in all of ChaseTel's networks and thus require costs relating to cell site, switch and handset upgrades.

B. Tentative Timetables

As discussed above, ChaseTel is dependent on information currently available from its vendors to determine when potential solutions may become commercially available and deployable. ChaseTel has formally asked its vendor for information concerning the commercial availability of the potential solutions and will provide responsive information on an ongoing basis as to timing of deployment as it becomes available. ChaseTel also will continue monitoring the Forum's testing and related efforts on an ongoing basis.

ChaseTel intends to implement the necessary upgrades as soon as reasonably possible once available from its vendor. In this regard, Qualcomm has stated that it presently intends to roll out wireless data capability in some existing handsets in December 1998 or January 1999, and in others during the first half of 1999. ChaseTel notes that the timing of availability to consumers will depend on infrastructure upgrades and data-enabled TTY availability. If and when this solution is both viable for ChaseTel's network and commercially available, the tentative timetable for implementing the feature would need to account for selection of IWF and v.18 modem card vendors, the selection of suitable locations for and installation of the IWF, and the integration and testing of the IWF in ChaseTel's network.

C. Steps to Address Consumer Concerns

The *November 13 Order* requires carriers to "specify with sufficient particularity" the "reasonable steps the carrier will take to address the consumer concerns referenced in the *September 30 Order*" in order to obtain a Section 20.18(c) waiver.[11] Section 20.18 alone contains the Commission rule regarding 911/TTY compatibility. Thus, while ChaseTel addresses the consumer concerns below, it reserves the right to challenge any Commission action to impose the consumer concerns as a substantive requirement on digital wireless carriers.

As the Commission is aware from the most recent Forum report, industry has determined that the various voice- and data-based solutions support the consumer concerns in varying degrees.[12] As discussed above, ChaseTel has determined that the various voice-based solutions are not feasible for its network. It appears that the Qualcomm asynchronous data solution that ChaseTel expects to use for its network supports most of the consumer concerns; ChaseTel

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[11] *November 13 Order*, ¶¶ 10-11.

[12] *See* TTY Forum Workplan at 11-17.

cautions, however, that additional testing may be required to confirm the extent to which the consumer concerns are supported.

Specifically, it is ChaseTel's understanding that this method meets all consumer concerns except # 9 — Voice Carryover (VCO) during a 911 call. In addition, while signal volume control is not applicable to data service calls, ringer volume control is already implemented in Qualcomm handsets and voice volume control is under investigation for 1999. The feasibility of adding this feature has yet to be determined. Also, as discussed above, a data-compatible TTY device will be needed, but broad-based wireline TTY support is anticipated, depending on IWF implementation. ChaseTel will report the feasibility of adding this feature in later updates as such information becomes available.

IV. WIRELESS DIGITAL TTY CAPABILITY IS NOT YET READILY ACHIEVABLE AND GOOD CAUSE EXISTS FOR THE WAIVER

Section 255 clearly governs digital TTY compatibility.[13] As such, the statute's "readily achievable" standard limits the extent to which the Commission can impose access-related measures on carriers.[14] The Access Board has determined that its guidelines are "'prospective in nature', intended to apply to future products"[15] and the Commission has similarly concluded that:

> [O]nce a product is introduced in the market without accessibility features that were not readily achievable at the time, Section 255 *does not require that the product be modified to incorporate subsequent, readily achievable access features.*[16]

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[13] 47 U.S.C. § 255(e); *see also E911 Reconsideration Order* at 22686, *E911 First Report and Order,* 11 FCC Rcd. at 1869; *E911 NPRM* 9 FCC Rcd. at 6180.. Moreover, the Access Board has already determined that specialized customer premises equipment includes TTY devices. 63 Fed. Reg. at 5615-16.

[14] *See* 47 U.S.C. §§ 255(a)(2), (c); 42 U.S.C. § 12181(9).

[15] 63 Fed. Reg. at 5612.

[16] *Id.*; *Section 255 NPRM* ¶ 120 (emphasis added).

Given the technical obstacles to digital/TTY compatibility, it is clear that under Section 255, enabling TTY users to make 911 calls — or, for that matter, any calls — is not readily achievable by January 1, 1999 and will not be readily achievable for a considerable period of time. Accordingly, the instant waiver request should be granted.

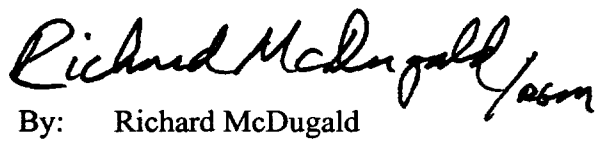
Finally, waiver of the Commission's rules is warranted pursuant to Section 1.3 of the rules where special circumstances warrant a deviation from the general rule and such deviation will serve the public interest.[17] Such circumstances clearly are present here and the public interest will be served by grant of the waiver.[18] Users of TTY devices may continue to use analog wireless technologies, and ChaseTel will continue to notify consumers of the need to use to analog technologies until a digital solution is implemented.

CONCLUSION

For the foregoing reasons, ChaseTel respectfully requests that the Commission grant the instant petition waiver of Section 20.18(c) until a long-term TTY solution is implemented.

Respectfully submitted,

CHASE TELECOMMUNICATIONS, INC.



By: Richard McDugald
Executive Vice President
6420 Richmond Avenue, Suite 620
Houston, TX 77057
(713) 782-3332

December 4, 1998

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17 *See Northeast Cellular Tel. Co., L.P. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

18 *See Roosevelt County Rural Telco*, 13 FCC Rcd. at 42; *see also* 47 C.F.R. § 24.819 (waiver granted where "unique facts and circumstances of a particular case render application of the rule inequitable, unduly burdensome or otherwise contrary to the public interest" and there is "lack of a reasonable alternative").

Attachment A

DECLARATION/VERIFICATION

I, Sunir Kochhar, state as follows:

1. I am Chief Technical Officer and Chief Operating Officer at Chase Telecommunications, Inc.

2. As such, I am familiar with Chase Telecommunications, Inc.'s efforts to comply with Section 20.18(e) of the Federal Communications Commission's rules and with the subject matter of the attached Petition for Waiver.

3. I have read the foregoing Petition for Waiver and the facts and statements contained therein are true and correct to the best of my knowledge, information and belief.

Sunir Kochhar

Sunir Kochhar

Dated: 12/4/98

TOTAL P.02

TOTAL P.02